

REMARKS

Please reconsider the application in view of the above amendments and the following remarks. Applicants thank the Examiner for carefully considering this application.

Disposition of Claims

Claims 1-11 and 13-22 are currently pending in this application. Claims 1, 13, 21, and 22 are independent. The remaining claims depend, directly or indirectly, from claims 1 and 13.

Claim Amendments

The independent claims have been amended to clarify that both the data block and the indirect blocks, which reference them, are stored using a dynamic striping policy. Further, dependent claims 14 and 15 are amended to address antecedent basis issues arising from the amendments made to independent claim 13 and to correct minor informalities. Support for these amendments may be found, for example, in the originally filed claims and in paragraph [0041] of the original specification of the referenced application. Applicants assert that no new subject matter is added by way of any of the aforementioned amendments.

Rejections under 35 U.S.C. § 103

Claims 1-11 and 13-22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Publication No. 2002/0161972 (“Talagala”) in view of U.S. Publication No. 2004/0123063 (“Dalal”) and U.S. Publication No. 2004/0225834 (“Lu”). To the extent that this rejection may still apply to the amended claims, this rejection is respectfully traversed.

The amended independent claims require, in part, that both the data blocks and the indirect blocks are stored in the storage pool (*i.e.*, on physical disks) using a dynamic striping policy. Thus, data blocks (*e.g.*, files) are striped across the physical disks in the storage pool using a dynamic striping policy. Further, the indirect blocks, which store metadata (*e.g.*, the data block location, the data block checksum, the data block birth time, etc.) associated with at least one referenced data block, are also striped across the physical disks using a dynamic striping policy (*see e.g.*, Specification, paragraph [0041]).

To establish a *prima facie* case of obviousness “...the prior art reference (or references when combined) must teach or suggest all the claim limitations.” (*See* MPEP §2143.03). Further, “all words in a claim must be considered in judging the patentability of that claim against the prior art.” (*See* MPEP §2143.03). Applicants respectfully assert that the references, when combined, fail to teach or suggest all the claim limitations of the amended independent claims.

In particular, Talagala relates to a method of storing data using dynamic striping. In particular, the dynamic striping method disclosed in Talagala includes a mechanism for keeping track of new parity groups formed during new data writes (*see* Talagala, Abstract). More specifically, Talagala discloses an indirection map that stores mappings of virtual addresses to corresponding physical addresses (*see* Talagala, Abstract and paragraphs [0033] and [0054]). In asserting the above rejection, the Examiner equates the indirection map to the indirect blocks recited in the claimed invention. *See* Office Action mailed January 25, 2007, page 4.

Assuming *arguendo* that the indirection map taught by Talagala references data block locations and stores data block checksums, the indirection map of Talagala is not itself stored using a dynamic striping policy. In fact, the cited portion of Talagala discloses a parity group table (PGT)

implementation of the indirection map. The PGT stores mappings of virtual addresses to physical addresses on storage devices of the parity groups (*see* Talagala, paragraphs [0054] and [0056]). Further, each valid PGT entry in the PGT references the next entry in a parity group such that the each physical segment in a parity group is linked to another physical segment in the parity group (*see* Talagala, paragraph [0056]). However, the PGT itself is simply a table stored in a static area of memory (*see* Talagala, Figure 6C and Abstract). Moreover, it is clear that the PGT table is not stored using a dynamic striping policy. In fact, neither the PGT nor any other implementation of the indirection maps taught in Talagala is stored using a dynamic striping policy. Rather, the dynamic striping is limited to data blocks and parity blocks. Thus, it is clear that Talagala fails to teach or suggest storing both *data blocks and indirect blocks* using a dynamic striping policy, as required by the amended independent claims.

Further, Dalal and Lu fail to supply that which Talagala lacks. This is evidenced by the fact that the Examiner relies on Dalal solely for the purpose of teaching the various types of dynamic striping policies recited in the independent claims of the present invention (*i.e.*, policies based on physical disk speed, free space available, load, and round robin) (*see* Office Action mailed January 25, 2007, page 5). Further, the Examiner relies on Lu solely for the purpose of disclosing an *updated* dynamic striping policy (*see* Office Action mailed January 25, 2007, page 5). Both Dalal and Lu are completely silent with respect to a storing an *indirect block using a dynamic striping policy*. In fact, Lu does not even teach striping data across multiple storage disks; rather, Lu is concerned with optimizing storage operations using updated storage policies.

In view of the above, it is clear that Talagala, Dalal and Lu, whether considered separately or in combination, fail to render amended independent claims 1, 13, 21, and 22 obvious. Thus,

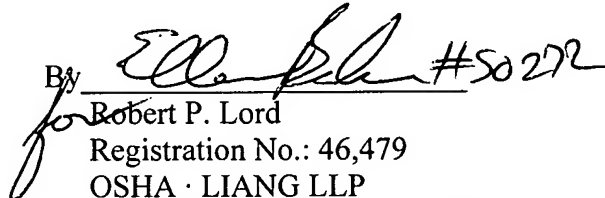
amended independent claims 1, 13, 21, and 22 are patentable over Talagala, Dalal, and Lu. Further, dependent claims are patentable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Conclusion

Applicants believe this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 03226/393001).

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